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**AGO D/A ltr dtd 29 Apr 1980**

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**DEPARTMENT OF THE ARMY**  
**OFFICE OF THE ADJUTANT GENERAL**  
**WASHINGTON, D.C. 20310**



IN REPLY REFER TO  
AGDA (M) (12 Nov 69) FOR OT UT 693317

8 December 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 299th Engineer Battalion, Period Ending 31 July 1969

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

*Kenneth G. Wickham*

KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

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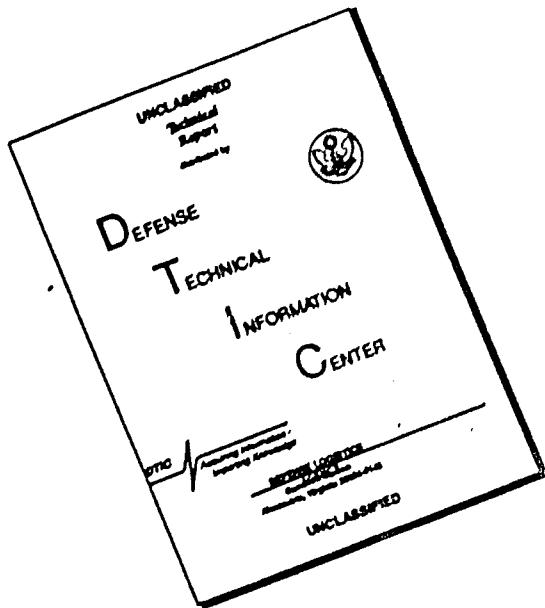
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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 299TH ENGINEER BATTALION (C)  
APO 96238

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31 July 1969

SUBJECT: Operational Report of 299th Engineer Battalion (C) for the period ending 31 July 1969, RCS CSFOR-65 (R1)

THRU: Commanding Officer  
937th Engineer Group  
APO 96318

Commanding General  
18th Engineer Brigade  
APO 96377

Commanding General  
United States Army, Vietnam  
ATTN: AVHGC-DST  
APO 96375

Commander In Chief  
United States Army, Pacific  
ATTN: GPOP-OT  
APO 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR, DA)  
Washington, D. C. 20310

SECTION I, OPERATIONS: SIGNIFICANT ACTIVITIES

1. GENERAL: a. At the beginning of the current reporting period Battalion elements were located at Dak To Firebase #1, Kontum, and Phu Tai. Major engineer effort was expended on LOC maintenance and upgrade, combat support, and POL pipeline burial. Route 512, a single lane all weather surface road between Dak To Firebase #1 and Ben Het, was maintained to permit the resupply of besieged Ben Het. Culvert work from Konum to Dak To on Route QL-14 also was completed. Direct combat support was provided American and ARVN units in the Dak To/Ben Het area to counter heavy enemy activity. Seven miles of six inch pipe were buried along QL-19 in Cha Rang Valley, and two miles of double eight inch pipe was coupled and buried in the Quin Nhon area. At the close of the reporting period, preparations were being made for testing. Company C closed on LZ North English on 19 May 1969 to assume construction responsibilities in that area. The 15th Engineer Company (LE) closed on Phu Tai on 19 July 1969 to furnish equipment support for the Battalion.

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On 20 July 1969, HHC closed on Qui Nhon, and Companies A and D closed on An Khe. The Battalion then assumed responsibility for construction and support operations in Binh Dinh Province.

b. The Battalion is deployed as follows:

- (1) Battalion Headquarters is located at Phu Tai (CR 008185).
- (2) Company A is located at An Khe (BR 443442).
- (3) Company B is located at Phu Tai (CR 008185).
- (4) Company C is located at LZ North English (BS 879038).
- (5) Company D is located at An Khe (BR 469468).

(6) The 15th Engineer Company (Light Equipment) remained attached to the 299th Engineer Battalion (COMBAT) and is located at Phu Tai (CR 008185) except for one platoon which is at LZ Pony (CR 801831).

2. STAFF ACTIVITIES: a. S-1

(1) During the past quarter, the Battalion, having attained the highest reenlistment rate within the group, was awarded the 937th Engineer Group reenlistment plaque for the months of April and May, reflecting the continued improvement of the battalion's reenlistment program. Personal visits to subordinate units and individual interviews were emphasized.

(2) The Battalion was directly involved in some of the most intense enemy activity of the war during the period. On numerous occasions, large numbers of the battalion's personnel performed in an outstanding and valorous manner. Command emphasis was placed upon processing and awarding the optimum number of awards, attempting to give recognition to all in accordance with the degree of valor displayed.

(3) An extraordinary large number of enemy-inflicted casualties were experienced during the period, necessitating our casualty reporting system to be streamlined to handle as many as eight KIA's and 25 WIA's in one day. This was accomplished by posting one clerk at the aid station during rocket attacks to gather necessary information. A runner carried the information to the S-1 office, where it was organized and phoned to higher headquarters. Close coordination among the medical section, intelligence section, and S-1 was necessary to minimize conflicting statistics being recorded.

b. S-2:

- (1) A full-scale program to strengthen the Dak To defenses was

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undertaken. Intermediate bunkers were constructed between primary perimeter bunkers; rocket stand-off screens were constructed around all of the primary bunkers, concertina wire was added to the perimeter where needed, internal channelization wire and internal fighting positions were constructed in all sectors, additional fougasse barrels were installed. Additional foxholes were dug throughout the firebase to provide immediate protection from frequent stand-off attacks.

(2) Additional bunkers were constructed near the airstrip for personnel awaiting aircraft. Automatic weapons positions were changed periodically by the perimeter defense officer.

(3) The reconnaissance section was involved in escort and security missions as directed by the Battalion CO and XO. Missions involved making damage assessments, analyzing shrapnel, and conducting searches for enemy bodies and equipment. The S-2 section also interrogated all suspicious personnel; detained persons were turned over to Dak To Sub Sector S-2.

c. S-3:

(1) During the reporting period the elements located at Dak To Firebase #1 continued working on routine assigned projects. In addition to those projects, the battalion was confronted with numerous combat support operations. The operations included land clearing at Ben Het, Ben Het Airfield repair, destruction of captured enemy complexes and munitions, and support of U.S. and ARVN units in the Dak To/Ben Het area.

(2) Due to the increase of enemy activity during the reporting period, the battalion faced the problem of conducting support operations in addition to manning 28 fighting positions. Approximately 300 enlisted men were required for night guard duty, which was performed in addition to working a normal duty day. Despite the obvious pressure, the morale was high, and combat support operations continued without delay. On one occasion an entire company volunteered to go on a recovery mission that was sure to result in enemy contact.

(3) Due to the large number of personnel involved in projects on Route 512, the S-3 worked in close coordination with the 24th Strategic Tactical Zone and Detachment B-24, 5th Special Forces Group for security on various projects along Route 512 and at Ben Het Special Forces Camp.

(4) In order to adequately provide support for the companies and to accurately report all activities, the S-3 was forced to divide the section and operate from both Dak To and Phu Tai. This division and the lack of communications showed in the reporting procedures of the section; however, coordination with 937th Engineer Group (C) allowed S-3 to submit reports in two parts for consolidation at that headquarters.

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SUBJ/WOT: Operation [redacted] of 209th Engineer Battalion (C) for the period on 1 July 1969, RCS CSFOR-65 (R1)

d. S-4:

(1) On 1 May 1969, in anticipation of the battalion's move to the Qui Nhon/Hong Son area, the S-4 section, consisting of the 1/S-4, PBO, a small supply section, a few supply yard personnel, and a water point team moved into Phu Tai Valley adjacent to Company B. They first established accounts with the support activities in the area. Later, when the decision was made to postpone the battalion's move, the supply section was left in Qui Nhon to support Companies B and C and to assist in planning for the remainder of the battalion since the final move date was unspecified. Construction materials were requested for Qui Nhon area projects. Because of the excessive order-ship time for these materials, the few materials received were acquired through vigorous follow up action and liaison with supply activities and higher headquarters. This forward supply section was also able to provide upon occasion, badly needed supplies and materials to the remainder of the Battalion at Dak To. When the Battalion finally moved to Qui Nhon, the project planning done by the forward staff greatly facilitated phasing into projects in the Qui Nhon area.

(2) Problems were encountered in the supply area, one of which was acquiring ammunition. Because the companies were completely involved in projects and security missions, only the S-4 assets were committed in ammunition resupply. Almost every day, trips to Pleiku or Kontum were made for ammunition. Aerial resupply was effected in some cases. One area of difficulty was supplying ammunition for a 81mm mortar crew attached to the Battalion from the 4th Infantry Division. A resupply agreement was worked out with the 2nd Brigade, 4th Infantry Division.

(3) The S-4 section became responsible for the movement of the Battalion from Dak To. Two separate movement orders were produced and directed by the Battalion S-4. More than 250 vehicles and trailers were used in the movement. The S-4 section assisted in loading and securing the majority of these loads. The postponement of the move temporarily tied up considerable assets of the 124th Transportation Battalion. Close liaison with their battalion resulted in a minimum of problems in moving the Battalion in late July.

e. Maintenance:

(1) During the report period the maintenance section's effort was two-fold. In addition to performing its assigned mission, the section was the main reaction force in the HHC. On several occasions, the reaction force was called to go to the aid of ambushed minesweep teams. A major effort was expended in retrieving combat lost and damaged equipment along Route 512.

(2) At the beginning of the period, the battalion had a deadline rate of 11.3% for critical items, and the 15th Engineer Company (LIC)

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had a deadline of 10.2% for critical items. The Battalion critical deadline dropped to 7.4% during the period while critical deadline for the 15th rose to a high of 17%, but declined to 11% at the end of the period.

f. CIVIC ACTION: The S-2 section, with assistance from the Surgeon and Chaplain, continued to administer the Battalion Civic Action Program until heavy enemy activity began, at which time medevacs were discontinued.

3. A COMPANY

a. First Platoon's efforts during the early part of the period were directed toward the construction of seven culvert headwalls along NL-14. On 17 May, the newly constructed culvert 14-38 was demolished by enemy personnel. At the same time, First Platoon began replacing a blown culvert on Route 512 near Old Baldy (YB 890273). Bypasses were constructed at both culvert sites, the damaged culvert was removed and replaced, and sandbag headwalls were constructed.

b. From 10 to 16 June 1969, First Platoon was located in Pleiku as part of a rotation program with Company B, 20th Engineer Battalion. The platoon assisted Company B's minesweep and worked on drainage at Camp Holloway and Bridge 14-22 north of Pleiku.

c. Equipment support was provided at Ben Het Special Forces Camp in the form of one dozer, a cutting torch, and an air compressor plus operators. Two ten ton tractors hauled supplies to Ben Het, and the First Platoon assisted in repairing the airstrip.

d. On 11 May, the newly repaired south span of Bridge 14-39 was destroyed by the enemy. The north span suffered minor damage. Immediately, the Second Platoon installed an ALVR, installed the previously removed float bridge, and began to repair the bridge. Two stringers were replaced, new decking and treadway placed, and the abutments reinforced. The approachway was restored and the bridge opened to traffic by 5 June.

e. When the Second Platoon completed the repairs to Bridge 14-39 in Dinh Binh, the Third Platoon removed the float bridge and hauled it to Kontum for the 509th Float Bridge Company. Additional efforts included construction of a fighting position for an eight inch howitzer at Firebase #3 and building a berm for the MACV Radar Station at Dak To. Final work prior to the move consisted of performing maintenance on Route 512 west of Tan Canh and repairing the damaged west abutment and span of Bridge 512-1.

f. Third platoon continued working on the MACV "Get Well" project.

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The latrino building at Old Dak To was erected over a concrete foundation, and a metal sentic tank installed. The project was delayed for lack of plumbing materials, and on 6 May, the Second Platoon took over the project. The plumbing system was completed, hot and cold water tanks installed, and an 8' x 16' concrete sentic tank constructed to replace the metal tank. The approachway was upgraded to finish the project.

g. The Second and Third Platoons were involved in constructing primary defense positions for the company. The second platoon constructed two eight-man underground bunkers with attached covered foxholes. Another bunker was under construction, but was not completed due to the move. The Third Platoon constructed an underground communications bunker measuring 16' x 18' and able to withstand 122mm rockets. A waiting bunker was also constructed at the airstrip.

h. All line platoons were involved in minesweeps during the report period. A daily minesweep was conducted from Tan Canh (ZB 069214) to Check Point Whiskey (ZB 153124). A total of 3 wooden box-type mines, two square plastic Soviet anti-tank mines, three metallic anti-personnel mines, one TM41 Soviet anti-tank mine, and one satchel-type, anti-vehicular mine were found and destroyed.

#### 4. B COMPANY

a. On 3 May, 3rd Platoon began constructing six 12' high guard towers at Tank Farm #2. The project's scope required erecting four poles as supports for each tower and constructing floors, revetment sides and sheet metal roofs. The revetments were filled with sand by the 240th Quartermaster Battalion. The project was completed on 2 June. On 5 May, 2nd Platoon began constructing two 12' high guard towers at the ARD Ammunition Dump. The scope of this project was the same as for the guard towers at Tank Farm #2. The project was completed on 10 May.

b. On 16 May, 3rd Platoon began construction of one 20' x 20' living bunker at Burn Station #2. The project was completed on 26 May.

c. On 4 May, the company undertook the task of constructing living quarters and perimeter defensive positions for the Battalion's new cantonment area adjacent to B Company's area. Materials were drawn from the Long My Depot and the Battalion's S-4 yard. It was necessary to clear and level the area (2,700' x 550') before actual construction could begin. Upon the completion of land clearing and upgrading, work effort was directed toward construction of eight 6' x 8' latrinos, four 8' x 20' latrines, four 10' x 24' showers, five 10' x 6' bunkers, four 12' guard towers and two 11' water towers. 1st Platoon was assigned the task of upgrading the perimeter. The platoon erected a four-strand cattle fence, and concertina and tanglefoot fencing. The 2nd and 3rd Platoons had the responsibility of erecting large and small group tents to be used as living quarters. Floors were constructed for mess halls and

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the S-4 supply tent. RC-800 was applied to the roads in the area. Problems arose at the proposed water point when severe rain storms caused flooding. To alleviate any problems, the 1st and 2d Platoons constructed an earth fill dam with forty feet of 36" culvert for a spillway run-off and spillway run-off catch. The project was completed on 1 July except for installation of shower heads.

d. On 22 July, enemy sappers partially destroyed Bridge 5 (BR 906323) on Route QL-19 which required the immediate construction of a bypass. A single lane bypass was constructed using a 38', 4" M4T6 Dry Span. The following day the bypass was upgraded to two lanes by adding two 48" culverts, each 45' long. (The bypass was elevated 2' using 3"(-) rock and laterite.) Work was conducted during hours of darkness in order to insure passage for daylight convoy traffic.

e. On 29 May, the company was assigned the task of burying one 6" API pipeline along QL-19 to a depth of 36". Pipe was buried between BR 940319 and BR 840347. Initial excavation was accomplished with one entrenching machine, which proved to be unsatisfactory. When greater emphasis was placed on the project, two additional entrenching machines were acquired. While the trench was being excavated, the 2d and 3d Platoons started laying pipe alongside the trench. Pipe was coupled by the 3d Platoon while the 2d Platoon continued to lay pipe. When the pipe was coupled and placed in the trench, a squad painted the pipe with RC-800. With the use of 5 ton dump trucks, bucket loaders and 18 cubic yard towed scrapers, sand and fill were hauled to the project site and placed in the trench. During the entire course of the project, numerous pilfering incidents occurred. In order to prevent theft, it was necessary to cover exposed pipe with 18" culvert and pour concrete over the culvert. The 240th Quartermaster Battalion had the responsibility of testing the pipeline for leaks. By 20 July the company had laid 6.75 miles of 6" pipe to complete the project.

f. On 4 July the company split its strength and started the task of burying two 8" API pipelines between package POL yard and Tank Farm #1. The required split caused a problem of space equipment allocation. Upon completion of the 6" line, a combined company effort was started on the 8" pipelines. The company was divided into two work forces, one of which worked from Package POL yard to Camp Granite, and the other from Tank Farm #1 to Camp Granite. The company worked day and night in an effort to meet the 21 July completion date. Weather conditions were unfavorable at times, and it was also necessary to blast rock in the trench-line. Due to unforeseeable problems, B Company was granted an extension of the completion date to 10 August. At the end of the report period, Company B had laid two 8" pipelines from Package POL yard to Camp Granite, and more than one fourth of pipeline from Tank Farm #1 to Camp Granite. Testing and backfilling will begin once the two lines have been laid.

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g. On 5 July 1969 the 2d Platoon began work on the MACV "Get Well" project at Binh Khe. The project's scope requires excavating one 25' well, installing a tank, pump and inline chlorinator. Excavation of the well was completed and culvert sections were placed as liners inside the well. Work was discontinued indefinitely because the inline chlorinator and pump are missing parts.

5. C COMPANY: During the first two weeks of the reporting period the company was stationed in Kontum, RVN, AR 787898. During the two weeks daily minesweeps were conducted on QL-14 north from ZA 185992 to ZB 155054. Company C completed all assigned projects with the exception of 57th Assault Helicopter Company and a joint Tactical Operations Center. On 9 May, an advance party was sent to Bong Son to build latrines, showers, and set up tents for the company's arrival on 19 May.

a. The east, west, and island sandpits in Kontum were operated by C Company until 11 May, when they were taken over by Co A, 20th Engineer Battalion (C). During the reporting period, a total of 1645 cubic yards were hauled from the island sandpit.

b. In the Kontum area, a large amount of work was performed on the excavation and placing of concrete culvert headwalls and wingwalls. Daily maintenance efforts on Route QL-14 included the visual reconnaissance of bridges and culverts, and the filling of mine craters. While in the Bong Son area, maintenance was performed on Route QL-1 from LZ Uplift (BR 920730) to I/II Corps Tactical Zone Border (BS 908162). Potcraters were filled and compacted, and treadway was placed on the Bong Son Bailey Bridge using 3420 board feet of 3" x 12" x RL material.

c. C Company's effort on the Battalion's LOC upgrade program was concentrated on Route QL-14N. Bridge QL 14-29 (ZB 220916) was completed by placing I-beams, decking, treadway, and handrails. Backfilling was completed by an earth moving platoon from the 815th Engineer Battalion (Construction). The project was completed on 16 May 1969. Bridge QL 14-32 (ZB 186994) was completed by placing decking, treadway, and handrails, and was completed on 16 May.

d. Considerable heavy equipment work was performed to upgrade Firebase Classic, an artillery fire support base. A dozer and operator were provided to cut trenches 30' x 12' x 100' so that 72" culvert could be placed leading from bunkers to artillery gun points. Several areas were cut and cleared. One 30' x 70' area was cleared for the construction of a motor pool. A total of 250 dump truck hours were expended to haul fill to the work site for bucket loaders to use in backfilling bunkers.

e. On the first day of the report period, the project of constructing five 20' x 40' PASCO buildings at Kon Hd Ring (DR Granger's Hospital) was completed. Also, 75 cubic yards of sand were hauled to Pat Smith's Hospital located in Kontum.

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f. Company C was assigned the project of constructing thirteen 20' x 60' living/fighting bunkers, one 20' x 40' command bunker, one field shower, and one burn-out latrine for its own use. The shower and latrine were completed and, at the end of the report period, nine living/fighting bunkers were complete, with the remainder under construction.

6. D COMPANY:

a. Throughout a majority of the report period, a portion of the company effort was expended in support of Operation Hines in the form of minesweeps. Daily minesweeps were conducted between ZB 002222 and YB 895272, and were under constant harassment from the enemy. Near the middle of the report period, minesweeps were discontinued for a while due to intense enemy activity.

b. During the report period, D Company completed the final phase in the construction of Bridge 512-1, Tan Canh, which consisted of placing wingwall forms and pouring concrete. The project was completed on 8 May.

c. During the report period, the final stage of Route 512, that portion through Dak To to Firebase #1 to Tan Canh, was completed. The final 300 meters of Route 512 was upgraded to a two lane all weather surface road. The entire project was completed on 15 May 1969.

d. Maintenance of Route 512 was an extremely important task due to repeated interdiction by the enemy. Many mine craters were filled and compacted, and the drainage system was constantly under surveillance because of the monsoon season. The biggest drainage problem was on Route 512 between Tan Canh and Old Dak To. Maintenance involved placing 2 culverts in a low portion of the route. Due to the excessive amount of rain and lack of a dry compactible fill, operations were highly unsuccessful at first. Eventually the area was repaired and opened for traffic.

e. Rehabilitation of Bridge 512-3 was found necessary due to the weakened abutment cribbage and noticeable sinkage. Work entailed strengthening the cribbage, upgrading the far shore, and backfilling same.

f. Due to intense enemy activity and the monsoons, Ben Het Airfield required repairing. Damaged M8A1 matting had to be removed and new matting placed. Concrete was used to fill holes in the airstrip. Construction operations began on 2 July and were completed on 10 July.

7. 15TH ENGINEER COMPANY (LE)

a. The company continued to provide engineer equipment support to the battalion with an equipment platoon at LZ Tony upgrading Route LTL-3A.

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b. Responsibility for operation of the Dien Binh Quarry, in addition to the Dak To crusher, continued during the period. The quarry was closed during the early part of the report period, and all but one primary crusher unit left Dak To, also during the early part of the report period.

c. On 30 May, one equipment platoon from the 15th Engineer Company (IE) began work on Route LTJ-3A at LZ Pony. Two borrow pits were opened in addition to four borrow pits already available. Samples were taken from each borrow pit to determine the soil characteristics. During the report period a total of 49,892 cubic yards of fill were spread and compacted along the route. The platoon, with assistance from Company C, placed culverts and excavated for culvert extensions.

8. ENEMY ACTIVITY: a. During the period, heavy enemy activity in the area caused increased precautionary measures when traveling along major LOC. Due to the frequent standoff attacks by the enemy, guard commitments were increased to strengthen the perimeter. Engineer forces were utilized as reaction forces, remaining on full operational alert during the reporting period. Enemy activity directly affecting engineer operations is summarized below.

(1) 9 May: At 1230 hours, Dak To Fire Support Base #1 received incoming 122mm rockets and 82mm mortars (12 rockets and 18 mortars). Only 3 rounds landed inside the perimeter. Negative damage, (1) WIA from the 124th Transportation (slight). Counteracted with dusters, 82mm mortar, 175mm gun fire and air strikes at suspected enemy locations, results unknown. At the same time, MACV Tranh Canh received 2 rounds of 122mm rockets and Fire Support Base 5 received unknown number of mortars and B-40 rocket fire. Incoming ceased at 1300 hours. Incoming began and ceased at all installations at approximately the same time.

(2) 10 May: Dak To Fire Support Base #1, incoming started at 1914 hours and stopped at 1935 hours. Estimated 12 rounds of 75 Recoiless Rifle received. Enemy firing from south of perimeter. Counteracted fire with 82mm mortar, 155mm from Dak To and Fire Support Base 6. One WABTOC damaged. One WABTOC slightly damaged. Negative casualties; enemy casualties unknown.

(3) 11 May: Sector Red reported one 122mm rocket landed across river 200 meters in front of Duster Position Charlie. Alert called, employed duster and artillery at suspected enemy location, results unknown. Alert called off at 1723 hours.

(4) 11 May: Dak To received two rounds of (possible) 122mm rockets or 82mm mortars. Rounds impacted north side of airstrip. Counteracted with artillery, dusters, and mortars at suspected enemy location, 992196. Results at this time are unknown. Have received approximately 3 rounds, 2 inside compound, 1 outside.

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(5) 11 May: Began receiving B-40 rockets and 60mm mortars, approx 75 rounds. West and south perimeter received small arms fire. Six snipers penetrated perimeter from the west. Artillery, Spooky gunships, small arms, claymores and dusters were employed. 15th Engineer Company (LE) mess hall destroyed in process of killing snipers held up inside. One 2½ ton truck heavily damaged, 1 duster damaged; incoming ceased at 0434 hours. Six enemy KIA, 12 Engineers WIA; 1 AK-47, 2 magazines, 1 B-40 rocket launcher, 1 bamboo torpedo, satchel charges, standard sniper equipment and supplies, 1 document CIA forwarded to 4th Inf for read-out.

(6) 11 May: Began receiving B-40 rockets and 60mm and 82mm mortars, approximately 30-35 rounds, from north, northeast and east. Perimeter breached vicinity of bunker 6, immediately repelled. Incoming ceased 0410 hours. Results: 3 enemy KIA, 6 Engineers WIA; 1 AK-47, 3 magazines, 1 document CIA. Light damage to two buildings, moderate damage to one building. Co C, 299th Kontum.

(7) 12 May: Began receiving 122mm rockets, 5 rounds outside perimeter, 1 round direct hit on mortar shed. Extent of damage unknown. 4 WIA. Employed 81 and 60mm mortars and small arms. Suspected enemy location AR 788909, Kontum, C/299th.

(8) 12 May: Fire Support Base 1, wrap up of spot reports from contact at Fire Support Base 1. Incoming ceased at 1820 hours. Dusters firing counterfire had one large secondary (large) and 2 secondary (small) explosions. Total of 46 rounds of mixed 122mm rockets and 82mm mortars. Casualties: friendly, 1 KIA, 7 WIA, (2 WIA from 299E). Enemy: unknown. Damage: 2 flat bed trailers slightly damaged, 1 wrecker heavily damaged, 1 2½ ton truck and 3/4 trailer destroyed. Vehicles not the 299th's.

(9) 12 May: Duster D on west side of perimeter reported receiving several rounds of sniper fire of unknown origin. Duster and small arms employed, results unknown. Sweep of perimeter in morning indicated outer wire cut in two places and found two positions. Negative blood trails. Fire Support Base 1.

(10) 13 May: Bunkers 20 and 21 reported 1 round of sniper fire on south side of perimeter. Increased observation across river. Dak To Fire Support Base 1.

(11) 13 May: Dak To Fire Support Base 1; 1 round of small arms fire at Bunkers 15 & 16, 2 rounds at Bunker 21 landed in D Company, located on south side of perimeter. Increased observation across river.

(12) 13 May: Started to receive incoming 122mm rockets at 1750. Incoming ceased at 1805. Total of 19 rounds. All inside perimeter. Artillery and gunships returned fire. Casualties: Friendly; 3 KIA, 12 WIA, all from 1/92 Artillery. Enemy: Unknown. Damage: 1 155mm gun destroyed. Dak To Fire Support Base 1.

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(13) 14 May: Report of perimeter activity from 131000 to 140700. At 1935 hours the southern section of the perimeter heard movement. Small arms and automatic weapons and NL-79 were employed. Two bunkers received small arms fire in return. Further night firing program was executed and suspected movement was taken under fire a short time later. From that time until first light, movement was heard around the entire perimeter. No further enemy fire was received. Negative casualties. Dak To Fire Support Base 1.

(14) 13 May: Received information from 140940. 3rd ARVN Cav made a sweep of Co C perimeter and found the bodies of two sappers killed during the attack on 11 May. Change enemy KIA for Co C from 3 to 5 for that contact. AR 788897.

(15) 14 May: Dak To Fire Support Base 1. Incoming started at 1754. Ceased at 1800. Suspected enemy location ZB 017187, YB 997130. Total of 3 rounds; probable 75mm. Dusters, 2½ ton truck with quad fifty and Mortar Section returned fire. Negative damage or casualties.

(16) 15 May: Dak To Fire Support Base 1. Started receiving incoming 120mm rockets at 1250 hours. Ceased at 1305 hours, total of 6 rounds. Dusters, 2½ ton truck with quad fifty and mortars returned fire. Casualties: 5 VIA (1) Engr returned to duty. Damage: 1 building destroyed, 1 10KV generator (1/67 Signal) destroyed, 1 building damaged.

(17) 16 May: At 152230, duster on southeastern corner of perimeter, using starlight scope, spotted 5 individuals. Individuals were fired upon by duster. Results: One body was seen. The others ran into the woods. At 2340 hours, duster spotted individual trying to recover the body. Illumination was fired and temporarily blinded the starlight scope. Four individuals were spotted carrying the body into the woodline. Duster fired with unknown results. At 2257 hours, walking guard on southwest side of perimeter received 2 rounds of small arms fire. Guard returned fire and dusters were employed with unknown results. Suspected enemy movement was heard around the entire perimeter and throughout the night. The area where dusters saw enemy body is a grassy area on south side of perimeter (river). Area was observed with field glasses. Results not confirmed. Still possible one KIA. Dak To.

(18) 16 May: At Dak To incoming began at 1510 hours and ceased at 1513 hours. Received 3 rounds of 120mm rockets. Two rounds landed approximately 300 to 400 meters outside perimeter. One round landed 150 meters outside perimeter. Suspected enemy location: YB 995130. Negative casualties or damage.

(19) Dak To Fire Support Base 1 began receiving incoming at 1810 hours; ceased at 1823 hours. Received 16 120mm rockets and 11 rounds of small

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arms fire from ZB 011232. Negative casualties or damage. Countered with dusters and artillery.

(20) 17 May: D/299th reported one of their permanent hire Vietnamese workers was observed pacing off distances between bunkers 22-25. Suspect brought under armed guard to Battalion TOC area, where interrogated by S-2, 299th EBN and 24th Special Tactical Zone and turned over to Sub-Sector personnel.

(21) 17 May: Dak To began receiving incoming at 1542 hours, and ceased at 1620 hours. Received approximately five 122mm rockets. Countered with dusters, artillery and 82mm mortars. Negative damage or casualties.

(22) 18 May: Dak To Fire Support Base 1, incoming began at 0510 hours and ceased at 0205 hours. Received 32 rounds of 82mm mortars and 4 rounds of B-40 rockets. Fire came from northeast and southwest. Dusters and 82mm mortars countered. Dusters had small secondary explosion while firing to northeast. Spooky on station with flares. Negative casualties. Damage: two 5 ton dumps, one 8000 asphalt distributor, one 1000 gallon water distributor, 2 jeeps, and one 10 ton tractor. Damage will be evaluated at first light. Vehicles were dispersed; however, the rounds were scattered around the entire perimeter.

(23) 18 May: Dak To began receiving incoming at 1140 hours and ceased at 1205 hours. Received six 122mm rockets and 9 rounds of 75RR. Suspected enemy location ZB 016183 and ZB 017197. Artillery fired counter fire. Firecracker rounds employed at suspected enemy location ZB 017197. Damage: 1 building slight, 1 jeep slight, and no casualties.

(24) 19 May: Dak To Fire Support Base 1 began receiving incoming at 1455 and ceased at 1504 hours. Received 18 122mm rockets. Results: 1 ARVN WIA, 2 US WIA. Suspected enemy location ZB 015173. Countered with dusters and artillery. Air strikes put in. Damage: 1 MM club destroyed, portion of mess hall destroyed, 5 tents damaged, 1 S&P trailer damaged, bunker 21 damaged from direct hit, 1 UH-1B/O moderate damage, ZB 007215.

(25) 15 May: Convoy enroute to Qui Nhon with 7 trailers from 299th Engineer Battalion (C) in vicinity of An Khe Pass was ambushed by small arms fire and B-40 rockets. Results: one 5000 gallon water tanker received shrapnel. Extent of damage unknown. Convoy continued to Qui Nhon.

(26) 20 May: Dak To Fire Support Base 1 began receiving incoming 122mm rockets and it ceased at 1730 hours. Bunker 23 received 3 B-40 rockets. Quad fifty returned fire. Casualties: 1 KIA, 6 WIA. Four WIA medevac'd. Damage: two 5 ton dump trucks slightly hit. 1 bucket loader, 1 concrete mixer, 1 600 gallon asphalt distributor, 2 tents and 1 shower also hit. ZB 007215.

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(27) 22 May: Dak To began receiving incoming rounds at 1300 hours and ceased at 1305 hours. Received three 122mm rockets and one 75RR round. Suspected enemy location ZB 013192. Suspected enemy location ZB 0048520935 determined by counter mortar radar. Returned fire with dusters, 82mm mortar; results unknown. 1 WIA. One round hit airstrip; slight damage in the form of a crater 2' x 1'.

(28) 23 May: Dak To started receiving incoming at 2355 hours and ceased at 0400 hours. Received a total of 57 rounds; 50 rounds of 82mm mortar and 7 rounds of 75 RR. Fire came from 3 locations. Funker on west side of perimeter received unknown number of small arms fire. Dusters and quad fifty fired on one suspected enemy location. Shadow on station but could not fire due to weather conditions. Negative casualties. Damage unknown; will make assessment at first light.

(29) 24 May: Received 3 rounds of 82mm artillery fire. Back AZ 4180 mils, no suspected enemy location. Artillery firing on the pre-selected locations YB 760194-YB 777222.

(30) 25 May: Dak To Fire Support Base 1 began receiving incoming at 1440 hours and ceased at 1450 hours. Received six 122mm rockets. Suspected enemy location ZB 015165. Counteracted with artillery, dusters and quad fifty. Results unknown. Negative damage or casualties.

(31) 26 May: Dak To Fire Support Base 1 began receiving incoming at 1447 hours and ceased at 1503 hours. Received six 122mm rockets and 82mm mortars. Counteracted with dusters, artillery and 82mm mortars. Dusters had one secondary explosion. Suspected enemy location 010190. Negative casualties. Damage: 5 tents; slight shrapnel.

(32) 28 May: Dak To Fire Support Base 1 began receiving incoming rounds at 1728 hours and ceased at 1740 hours. Received twelve 122mm rockets. Suspected enemy location 015199. Counteracted with dusters and artillery. Casualties: 8 KIA, 19 WIA. 15th Engineer Company (LE) CP took direct hit with delayed fuse. Two rounds detonated on impact; 10 had delayed fuses. ZB 007215.

(33) 31 May: Dak To Fire Support Base 1 began receiving incoming at 1058 hours and ceased at 1115 hours. Received six 122mm rockets with all of them landing outside the perimeter. Counteracted with artillery, results unknown. Negative damage or casualties. Suspected enemy location 989162.

(34) 31 May: Dak To Fire Support Base 1 began receiving incoming rounds at 1653 hours and ceased at 1710 hours. Received 20 rounds of 122mm rockets and 10 rounds of RR fire. Suspected enemy location ZB 007191, ZB 003191. Artillery and dusters fired on suspected enemy locations. 299th Engineer 82mm mortar fired on suspected enemy location and got one secondary. Friendly casualties: Negative. 1 ARVN truck destroyed.

(35) 31 May: Dak To Fire Support Base 1 began receiving incoming at 1845 hours and ceased at 1850 hours. Received total of 9 rounds of

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RR fire or unknown type artillery. Counteracted with dusters, quad fifty and artillery. C130 landed and RR fire was directed toward aircraft; one round was a suspected air burst.

(36) 1 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1700 hours and ceased at 1734 hours. Total of six rounds of 122mm rockets fell. Dusters, mortars and artillery counterfired. Suspected enemy location YB 984209, ZB 000195, ZB 012130, ZB 000176. Casualties: 3 KIA (2 Engineers); 3 WIA (1 Engineer).

(37) 2 June: Dak To Fire Support Base 1 began receiving incoming rounds at 0755 hours and ceased at 0805 hours. Total of six 122mm rockets. Dusters and artillery counterfired. Negative casualties or damage.

(38) 3 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1645 hours and ceased 1700 hours. Total of 26 122mm rockets. Rockets were being fired in pairs. Dusters, quad fifties and artillery counterfired. Suspected enemy location ZB 020189. Results: 7 WIA (5 Engineers). Damage: 1 mess hall heavily damaged. One crater on airstrip 11' x 5½', and smaller hole measuring 4' x 2'. Helicopter refueling area also damaged.

(39) 3 June: Dak To Fire Support Base 1 spotted by radar some movement 300 meters south of the perimeter. Taken under fire by dusters, quad fifties, 81mm mortar and 155 artillery direct fire. Results: 7 secondary explosions.

(40) 3 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1905 hours and ceased at 1920 hours. Total of 18 rounds, 75 RR and six 122mm rockets fell. Suspected enemy location ZB 008195, ZB 005205. Dusters, quad fifties, 81mm mortars and artillery counterfired. Dusters got three secondary explosions, 8" gun got 1 secondary explosion; other artillery got 1 more possible secondary. Results: 1 WIA (no Engineers). Damage: 1 building moderate damage, 1 S&P; slight damage.

(41) 4 June: Due to the increased size of the several craters discovered after recent rocket attacks it is our belief that the enemy is using the 122mm Overcaliber rockets (improved version). Several craters have been located 20' x 8' deep. A standard 122mm rocket is not capable of creating a crater of this size. At this time we have not found shrapnel, fins, or any other evidence to confirm our new theory.

(42) 4 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1647 hours and ceased at 1700 hours. Total of 24 122mm rockets. Suspected enemy location ZB 007194. Dusters, 81mm mortars and artillery counterfired. Dusters got one secondary explosion. Gunships expended. Results: 4 KIA (no Engineers), 2 WIA (1 Engineer); crater on airstrip 4' wide by 2' deep.

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(43) 4 June: Dak To Fire Support Base 1 started receiving incoming rounds at 1910 hours and ceased at 1915 hours. Total of 6 rounds 75 RR fire. Dusters and 81mm mortar counterfired. Results: 2 KIA (no engineers), 3 WIA (no Engineers) and one 155mm howitzer damaged; slight.

(44) 5 June: Dak To Fire Support Base 1 began recciving incoming rounds at 1912 hours and ceased at 1935 hours. Total 18 rounds 122mm rockets and 10 rounds 75 RR fire. Dusters, quad fifties, 81mm mortar and 8" howitzer counterfired. 81mm mortar received two secondaries. Negative damage or casualties.

(45) 6 June: Vic YB 995145, 7/17 Cav sighted 122 mm rockets set up and pointing toward Dak To. Gunships and artillery employed. Results unknown.

(46) 9 June: Dak To Fire Support Base 1. At 1120 hours a bunker on the southeast corner of the perimeter sighted one individual across the river. Dusters and 155mm artillery fired. Results unknown.

(47) 10 June: Dak To Fire Support Base 1 started receiving incoming rounds at 1838 hours and ceased at 1850 hours. Total six 122mm rockets. Dusters and quad fifties counterfired. Results: 3 WIA (2 Engineers - 1 Civilian); 2 tents damaged.

(48) 10 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1953 hours and ceased at 2010 hours. Total of 20 rounds, 16 75 RR, and four 122mm rockets. Dusters and quad fifties counterfired. Results: 3 WIA (2 Engineers). Negative damage.

(49) 12 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1810 hours and ceased at 1820 hours. Total of nine rounds 122mm rockets. Suspected enemy location ZB 000168. Artillery counterfired. Negative casualties. 1 tent damaged.

(50) 12 June: Dak To Fire Support Base 1 began receiving incoming rounds at 1920 hours and ceased at 1925 hours. Total of 18 rounds of 75mm RR fire. Artillery counterfired. 2 US WIA (20th Engineer Bn). Negative damage.

(51) 13 June: Dak To Fire Support Base 1 received one 122mm rocket. Artillery counterfired. Negative casualties or damage.

(52) 27 June: Bunker guard on south side of perimeter (bunker 16) spotted a spider hole. One individual believed to be in the hole. Duster employed. Two direct hits in the hole. Results unknown; Dak To Fire Support Base 1.

(53) 28 June: At approximately 1320 hours, radar spotted movement south of the perimeter; dusters and quad fifties employed. Results unknown; Dak To Fire Support Base 1.

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(54) 6 July: "Headhunter" spotted at ZB 084214 six rockets aimed at Dak To or Tanh Canh. More likely Dak To Fire Support Base 1 due to location. Artillery employed. Results: 3 small secondaries and one large one. "Headhunter" confirms four rockets destroyed and 2 damaged.

b. Mining incidents along the major LOC routes increased as did enemy standoff attacks. Engineer minesweep teams were periodically ambushed as they performed engineer tasks mainly along Route 512, Dak To to Ben Het. Enemy interdiction of Route 512 caused many hardships for the engineers as they kept Route 512 open despite frequent enemy harassment. A summary of mining incidents this period follows.

(1) 11 May: ARVN 2½ ton truck in front of A/299th minesweep team hit a box type mine 100 meters north of Check Point Whiskey. Truck was heading south with minesweep team and hit mine on west side of road.

Front of truck heavily damaged. Negative casualties.

(2) 12 May: D/299th minesweep team found six Chicom metal antitank mines, 5" high, 15" diameter with 11 pounds of explosives placed 10 meters apart on shoulder of road alternating on east and west side. All mines blown in place, crater 3' x 4'. YB 900273.

(3) 12 May: A/299th minesweep team found one plastic antitank mine on east side of road. Blown in place; crater 2½' x 4'. Buried under 1½" road surface. ZB 072186.

(4) 13 May: A/299th minesweep team found 1 plastic mine on right side of road. Mine was covered with leaves. Blown in place; crater 3' x 3'. ZB 069204.

(5) 13 May: D/299th minesweep team found 1 US 60mm mortar round (dud) in center of road at YB 880267. Round blown in place. Also at YB 891270 found 1 US 105mm artillery round on right side of road; also blown in place. Negative casualties.

(6) 13 May: C/299th minesweep team found three mines. First box mine found on left side of road under 1" of dirt at ZA 209944. 100 meters further north on right side of road found 1 plastic mine PM60 (East German made). Mine pulled and given to Cavalry CO. Also found another box mine 100 meters north of second mine on left side of road. Had a US 60mm mortar fuse for a detonator. Both mines pulled, blown in place; crater 3' x 2'.

(7) 14 May: D/299th minesweep found 1 metallic antitank mine 500 meters west of Fire Support Base #13. Mine was 10" in diameter and 6" high with approximately 20 pounds of explosives. It was found on the road and blown in place; crater 8' x 4'. YB 915265.

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(8) 16 May: 10 ton tractor with lowboy from 15th LE Company hit mine enroute to Ben Het vicinity YB 913267. Extensive damage was done to left side of 10 ton. Driver wounded by shrapnel. WIA dusted off at 1650 hours; mine left crater 3'-6". Was located on south edge of road off pavement.

(9) 17 May: Culvert 38 was blown sometime early morning of 17 May. Extent of damage: east headwall cracked, 30' of each two 60' culverts destroyed. One undamaged culvert carrying all of water. West half of road passable though cracked along center culvert. Repairs to culvert have begun. ZB 152086.

(10) 17 May: ARVN minesweep found 2 box mines in center of road on edge of asphalt spaced 100 meters apart 100 meters from Bridge 35. Blown in place; crater 4'-5". Blown by C/299th. ZB 167027.

(11) 17 May: D/299th minesweep team found 1 mine 3 kilometers east of Ben Het. Mine was TM 41 covered with plastic. Mine was in center of unpaved portion of road. Pulled off road and blown; crater 6'-3 $\frac{1}{2}$ '. YB 914266.

(12) 18 May: D/299th minesweep team found 1 TM 46 Chicom mine 2 feet from crater left by mine of 14 May. Located on south side of road. Mine pulled and brought in for inspection. YB 911269.

(13) 19 May: 10 ton tractor and 1 bucket loader hit mines vicinity of ZB 070187. Mines were on east shoulder of road. 10 ton hit mine with left dual; bucket loader hit mine with right wheel side. Crater 3 $\frac{1}{2}$ '-3'. Type TM 41. Road closed and area swept again. One more mine was found off road on tank trail. Mine that was found was not completely buried; about one inch was above ground. Indications are that mines are being placed after the minesweep has swept the area. 5 WIA dusted off. Possible back injuries.

(14) 19 May: D/299th minesweep team found two more TM46 AT mines 100 meters apart; one on north edge of road halfway under pavement and one on south side of unpaved part. Mines pulled and blown in place; crater 6'-4". Negative damage or casualties. ZB 915263.

(15) 19 May: D/299th minesweep team found two more TM46 AT mines 5' from asphalt on south side of road 100 meters apart. Mines pulled and blown off side of road; crater 6'-4". Negative damage or casualties. ZB 917259.

(16) 19 May: 5 ton tractor from recovery element hit mine of previous mine incidents. Also received unknown number of small arms fire. Swept area again; closed road to southbound traffic from Tanh Canh. Negative casualties. ZB 070187.

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(17) 19 May: ARVN tank providing security for D/299th minesweep team hit mine with right track. Track blown off. Mine located 15m off north side of road across ditch. Continued minesweep toward Ben Het. ZB 890272.

(18) 20 May: Co D/299th minesweep team received 15 to 20 rounds of automatic weapons fire vic YB 910260. Fire came from south side of the road. Small arms and automatic weapons fire returned by minesweep team. Negative casualties or damage.

(19) 22 May: A Company (A11) working on Route 512 received small arms and B-40 rocket fire. ARVN Cav came to assist, dump truck pulled in ditch to get out of line of fire. Mine was struck while 5 ton was driving in ditch. Mine located 6' off shoulder of road on south side. It hit mine with rear duals, causing truck to catch fire. Casualties: 3 Engineers WIA due to burns. No dustoff required. 5 ton totalled. YB 890272.

(20) 24 May: Bridge 14-42 was blown during the night of 23-24 May. South abutment on bridge completely destroyed. North abutment damaged beyond repair. S-2 making damage assessment and will formulate plans for repair ASAP. ZB 062230.

(21) 26 May: D/299th minesweep team and 3d ARVN Cav security returning from Ben Het received two B-40. 3d ARVN Cav fired on suspected enemy locations with unknown results. Results: Negative casualties; damage to one 5 ton truck very slight; shrapnel. One mine detector moderately damaged. YB 886270.

(22) 26 May: A/299th minesweep team found a TM41 mine at ZB 068191. Located while conducting return sweep. Mine was buried on west edge of the road. Mine blown in place; crater 3 $\frac{1}{2}$ '-3'.

(23) 31 May: A/299th minesweep team found 1 plastic AT mine located in center of road halfway under paved portion. Mine pulled and blown off; crater 4'-2'. ZB 153135.

(24) 31 May: A/299th minesweep team continued south to Bridge 38, found that the 815th's water distributor hit an AP mine at ZB 153107 in middle of road. Crater 18"-1' resulting in blown tire. Also at ZB 153106, ARVN minesweeper stepped on AP mine on west side of road; crater 2"-1". ARVN foot blown off; ARVN dusted off. A/299th minesweep team swept to Bridge 38 due to fact that when ARVN stepped on land mine, 3d Cav minesweep team discontinued minesweep. A/299th usually sweeps to Check Point Whiskey where they meet the Cav minesweep. Plastic mine identified as East German-made PM-70 found. 815th truck ran minesweep.

(25) 2 June: Check Point Whiskey ZB . S. A/299th minesweep

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found one AP mine on the east side of the road 150m south of CPW. ARVN Cav found one AP mine on east side of road in same vicinity. A grader from 815th Engineer Battalion went around the minesweep team and hit an AP mine. One tire on the grader was blown.

(26) 4 June: Vicinity of Ben Het YB 912268; Co D work party returning from Ben Het was fired on with three B-40's and small arms. One 5 ton dump truck was hit. Work party and ARVN Cav road security returned fire. Results: Casualties; 4 WIA (all Engineers) slight, one 5 ton truck sustained heavy damage.

(27) 6 June: At 1120 hours an aircraft received small arms fire at east end of Dak To runway. Negative hits.

(28) 7 June: Vic YB 966227. At approximately 0800 hours, Co D minesweep made contact with platoon or company-size enemy force. ARVN security left the team. Minesweep team was pinned down. Received B-40's and small arms fire from both sides of the road. Reaction force of one platoon, 2 dusters, quad fifties, and two recon trucks from Dak To supported. Contact broke and mine sweep team extracted at 0925. One ARVN Recon Co dispatched to area. Results: US 3 KIA (2 Engineers), 7 WIA (3 Engineers). ARVN 1 KIA. Enemy 2 KIA. One helicopter sustained heavy damage.

(29) 7 June: Vic YB 956237. At 1225 hours, Co D minesweep team received small arms fire. Mine sweep team withdrew to Dak To. Negative casualties.

(30) 7 June: 2/42 swept north of Engineer minesweep contact area. Received small arms fire. Found 1 ARVN WIA and 1 enemy KIA with documents.

(31) 12 June: Vic Kon Hoi Ring, ZB 111165, Co A minesweep team found two mines on east side of road, approximately 18" off asphalt on shoulder of road, 40 paces apart. Mines were pulled. One mine was Chinese shaped charge grenade (markings RKG-3T HT-50). One mine was 10-12 pounds of explosive in a sand bag with a standard Soviet pull-release type firing device.

(32) 16 June: Vic Old Baldy and FSB 13, Co D minesweep received sporadic sniper fire from vic YB 918259 to YB 914256. Team repaired south lane of Route 512. Ditch was 2' wide and 2' deep with the exception of 8' of the road. NVA had ambush set up at the gang culvert vic YB 880267. When the convoy reached the ambush area it received continuous small arms and R-40 fire. The minesweep team broke into two 12 man elements; one northwest and one southwest of the culvert, and returned the fire. At approximately 1845 vic YB 902273 to YB 908272, the minesweep team received small arms fire while returning to Dak To. Negative casualties or damage.

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(33) 20 June: Co D minesweep team received small arms fire. Fire returned. Negative casualties. YB 925253.

(34) 22 June: Route 512 has been interdicted at the following grid lines: YB 907 culvert blown (impassable); YB 911 & 918, ditch across road (impassable). YB 885, 895, 915 and 926 have holes in the road from Arc Light (passable). YB 912, 914, and 926 have ditches which have been started across the road (passable).

(35) 23 June: Co D minesweep team found 4 AP mines, Chicom shaped charge grenades, set up for command detonation with pull device and wire leading into the woods. Mines were found over a 100 meter stretch vic YB 910270. All mines were on south side of road.

(36) 23 June: At 1545 hours, A/299th Engineer 5 ton dump truck hit a mine 100 meters east of duster. Total loss. Negative casualties. YB 878215.

(37) 23 June: The following incidents occurred on 23 June:

(a) 1540 hrs - 1 tank of 1/14 Cav hit by B-40 at YB 911269, burning and blocking the road.

(b) 1610 hrs - M/S team ambushed 500 meters east of Ben Het. Security ran and Cav refused to help. M/S team had 7 casualties.

(c) 1730 hrs - Reaction force (299th EBC) committed: 1 FSB 13, 4 WIA (serious), 2 KIA, 1 was ARVN.

(d) 1738 hrs - 1st reaction force in contact at FSB 13 pinned down. 1750 hrs 2d reaction force committed at FSB 13.

(e) 1757 hrs - Enemy walking unknown type fire (possibly mortar) at their position.

(f) 1800 hrs - FSB taking mortar fire, 2 KIA, 1 WIA. All reaction forces at FSB 13.

(g) 1807 hrs - G/S have target marked, expending rockets. A1E ftr acft on station.

(h) 1810 hrs - have requested APC's and tanks from ARVNs to move to FSB 13 to support withdrawal.

(i) 1810 hrs - FAC on station; artillery firing.

(j) 1815 hrs - AE1 Skyhawks beginning bombing run on SEL. Bombs and napalm.

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- (k) 1825 hrs - At dispensary: 1 KIA, 5 WIA dusted off.
- (l) 1830 hrs - ARVN's at FSB 13 in support.
- (m) 1837 hrs - taking SA fire, FSB taking mortar fire.
- (n) 1840 hrs - FSB 13 requested more gun ships. AE1 Skyhawks called in for cover fire for 10.
- (o) 1840 hrs - AE1 Skyhawks took ground fire on runs. 1 tracer went by A/C at 2400. Negative hits.
- (p) 1857 hrs - broke contact; heading for Dak To.
- (q) 1920 hrs - Closed Dak To.

Casualties: 3 KIA, 21 WIA (all Engineers). Enemy: 43 KIA and 15 heavy blood trails left. Lost: 2 mine detectors, 4 trucks, 1 radio (PRC 25), 1 air compressor and unknown number of weapons. Ali lost in vicinity of FSB 13.

(38) 24 June: (REF ITEM 37): 299th Engineer reaction force contact vic FSB 13 on 23 June. Helicopter searched area after contact broke and observed 32 enemy bodies, killed by small arms and air strikes. An element of 42d Regiment passed through the contact area also on 24 June. 42d found 9 NVA bodies in the vicinity of the Engineer defensive position. Also found at least 15 heavy blood trails. Enemy force estimated 1 battalion. YB 916259.

(FOR TOTAL ENEMY CASUALTIES SEE S-1).

(39) 2 July: Wrap up of vehicles recovered during 1 July operations: recovered four 5 ton dump trucks, one 250 GEM air compressor, also found parts of 2 M-16's, 2 M-14's and 1 believed to be PRC 25 radio, in vicinity of YB 877250. All vehicles belonging to the 299th were recovered.

(40) BR 512-1 blown during early morning hours (0200 hrs). Damage extent: 1 I beam damaged, 1 trindle support blown out, left wing headwall blown, five 8" x 12" planks damaged, four 4" x 12" damaged. Minor damage to bridge; will hold normal traffic. ZB 058223.

(41) 2 July: ARVN Engineers found 2 mines at YB 878263; 1 mine on left side of road and the other on the right side of the road at the gang culverts. One Russian mine, TM-41, and a Russian AP mine. Mine was on edge of asphalt, other under asphalt. Mines pulled by 299th minesweep team and also blown by them. Crater 10'-8". Size of mine 4"-12".

(42) 2 July: 15th Engineer Co LE 290M hit mine at BR 827 901. Mine was a 105mm artillery round set off with 2 blasting caps and small battery. Mine in center of road. Area around 290M was re-swept. Damage: slight. Negative casualties.

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SECTION II, LESSONS LEARNED: COMMANDER'S OBSERVATIONS, EVALUATIONS AND RECOMMENDATIONS

A. PERSONNEL: None

B. OPERATIONS:

1. Waterproofing the roof of living/fighting bunkers.

(a) OBSERVATION: The standard design for living/fighting bunkers calls for a flat roof, thus complicating the waterproofing of the roof.

(b) EVALUATION: The standard method for waterproofing the roof (i.e.) tarpaper and bitumen, is unsatisfactory. The required fill placed on the flat roof retains the moisture, thus aggravating leaks and complicating their location and repair.

(c) RECOMMENDATIONS:

(1) Redesign the basic plan of the living/fighting bunkers to include a pitched roof for drainage.

(2) Make required field changes on bunkers under construction to provide a pitched roof.

(3) When possible, M-17 membrane should be substituted for tarpaper to reduce the number of joints.

2. Ditching for burial of POL pipeline.

(a) OBSERVATIONS: The digging of ditches or trenches for the purpose of burying POL pipeline invariably constitutes the critical path on project plans.

(b) EVALUATION: The methods and equipment used to dig ditches or trenches depends on soil type, the size and number of pipelines to be buried, the type of equipment available, and the lateral easement available.

(c) RECOMMENDATIONS:

(1) When burying single 6" API or tubing-type pipelines, the combat entrenching machine may be used to dig a 2 $\frac{1}{4}$ " wide ditch in soft, rock-free soil types. Pipeline can be coupled in short segments atop timber or metal supports laid across the trenchline, then lowered as work progresses.

(2) For single 8" pipelines, the same method as above is used, followed by excavating to 36" width with a Gradall where lateral easements are narrow. Eight inch diameter lines should be coupled in the ditch.

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(3) For multiple pipelines or where unrestricted level easements exists, trenches should be excavated with scoop loaders or bulldozers. The pipeline should be coupled in the trench to preclude manhandling of heavy loads, frequent breakage of couplings, and alignment problems with multiple-line installations.

3. Protection of portions of pipeline which cannot be buried per specifications.

(a) OBSERVATIONS: The requirement to bury pipelines to a standard depth cannot be met in every case, in particular over drainage structures.

(b) EVALUATION: Various methods have been used to protect pipe which is exposed or buried with insufficient cover. Concrete caps, culvert caps and the like should be used.

(c) RECOMMENDATIONS:

(1) When some depth can be gained, use culvert halves for forming and fill with concrete to give minimum cover over couplings of 4 inches.

(2) When pipe is on or near the surface, form and place a reinforced cap to insure at least 4 inch cover over the couplings. This may result in an obstacle on the shoulder of the road and should be identified by an appropriate marker.

4. Coating of tubing or pipe with RC 800.

(a) OBSERVATIONS: Specifications for the burial of 6 inch tubing and 8 inch API pipe required coating the tubing/pipe completely with RC 800.

(b) EVALUATION: Attempt to coat the tubing/pipe by pouring the RC 800 over the tubing/pipe and hand swabbing the bottom of the pipe proved to be unsatisfactory.

(c) RECOMMENDATIONS:

(1) Whenever possible, pipe should be coated in the trench.

(2) The pipe should be blocked up off the ground to facilitate cleaning.

(3) The tubing/pipe should not be assembled in lengths that cannot be manhandled.

(4) The coating should be applied by pouring over the section and allowing to dry - usually 24 hours. When dry, the sections should be rolled over and the balance of the pipe coated in a similar manner. This method insures complete coverage of the tubing/pipe with a minimum of hard labor.

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5. Temporary small scale repair of M8A1 matting.

(a) OBSERVATIONS: A rapid stop gap method of repairing damages done to M8A1 matting due to mortars and small arms fire is needed to keep air-strips open during critical operations.

(b) EVALUATION: To eliminate the need to replace sections of matting, the area around small scale damages to the matting can be cut out with a torch. The crater, if any, is filled with rock or select material and a concrete patch placed in lieu of matting, thus reducing airfield downtime.

(c) RECOMMENDATIONS:

(1) Rapid repair of small scale damages to M8A1 matting can be done by cutting out damaged areas and placing a concrete patch in lieu of matting. No attempt should be made to tie the patch in with the surrounding matting.

(2) When time permits, matting should be replaced in the normal manner.

6. Patching of M8A1 matting on runways/taxiways.

(a) OBSERVATIONS: Patching (replacement) of M8A1 matting due to enemy shelling, etc., rarely allows for easy mating of the new matting to the undamaged old matting.

(b) EVALUATION: Since a portion of the new M8A1 matting will not mate with the old adjoining slots, the edge of the matting presents an obstacle sufficient to cause damage to the wheels of aircraft if welded as is.

(c) RECOMMENDATIONS: Flatten or remove lugs which do not mate with adjoining matting and spot weld at six inch intervals.

C. INTELLIGENCE: None.

D. LOGISTICS: None.

E. ORGANIZATION:

1. Separation of elements of battalion headquarters.

(a) OBSERVATIONS: Compelled by tactical exigencies to postpone a partially completed unit move, the battalion operated for nearly three months over a total distance of approximately 250 miles via GLOC, with operational segments of the headquarters 175 miles distant.

(b) EVALUATION: Command and control functions were severely constrained. Routine administrative and logistical functions were accomplished by vehicular courier, and required as much as three times as long to accomplish. The existing MTOE was not adequate to perform

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assigned missions for such a protracted period of time.

(c) RECOMMENDATIONS: In such instances, command action should be taken to provide the following temporary augmentations to the MTOE:

- (1) Long range radio and additional teletype communications equipment and operators.
- (2) Additional wheeled vehicles, drivers and mechanics.
- (3) Aviation support for exercise of command and control functions and high priority administrative and logistical traffic.
- (4) Additional personnel overhead to sustain remote headquarters operations.

SECTION III, HEADQUARTERS, DEPARTMENT OF THE ARMY SURVEY INFORMATION

Lessons Learned - Escape and Evasion Information: None

2 Incl  
1. Organization Status  
2. Personnel Status

*R. L. Ackerson*  
R. L. ACKERSON  
LTC, CE  
Commanding

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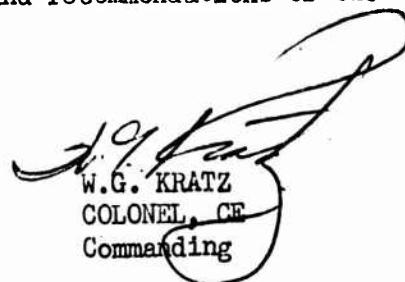
EGC-CO(31 July 69) 1st Ind

SUBJECT: Operational Report of Lessons Learned for the Period 1 May 1969  
thru 31 July 1969.

DA, HEADQUARTERS, 937TH ENGINEER GROUP (COMBAT) APO 96318, 23 August 1969.

TO: Commanding General, 18th Engineer Brigade, ATTN EVCB-CB, APO 96377.

1. The subject report , submitted by the 299th Engineer Battalion (Combat), has been reviewed and is considered a well compiled report of organization activities.
2. I concur with the observation and recommendations of the Battalion Commander.



W.G. KRATZ  
COLONEL, CE  
Commanding

AVBC-CG (31 Jul 69) 2nd Ind

SUBJECT: Operational Report of the 299th Engineer Battalion (Combat) for  
the Period Ending 31 July 1969, RCS CSFOR-65 (R1)

DA, HEADQUARTERS, 18TH ENGINEER BRIGADE, APO 96377 1 SEP 1969

TO: Commanding General, U.S. Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. This headquarters has reviewed the Operational Report - Lessons Learned for the 299th Engineer Battalion (Combat), as indorsed by the 937th Engineer Group (Combat). The report is considered to be an excellent account of the Battalion's activities during the reporting period.
2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commanders, with the following comments added:

Reference: Section II, paragraph B1. The Engineering and Plans Section of this headquarters will revise the living-fighting bunker design to include a pitched roof. Laying the waterproofing material with a minimum 12" overlap, together with a pitched roof, should remedy problems of roof leakage. M-17 membrane should not be used for waterproofing due to its high cost.

J. W. MORRIS  
BG, USA  
Commanding

CF:

1 - CO, 937th Engr Gp  
1 - CO, 299th Engr Bn

AVHGC-DST (31 July 1969) 3d Ind

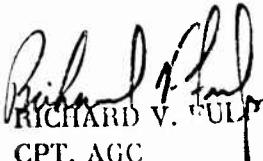
SUBJECT: Operational Report of 299th Engineer Battalion (C) for the period ending 31 July 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco  
96375 16 SEP 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1969 from Headquarters, 299th Engineer Battalion (C).
2. Reference item concerning "Separation of elements of battalion headquarters," section II, page 25, paragraph E1; concur. Short-term augmentations to the unit MTOE can be accomplished by the temporary loan of equipment and by the temporary assignment of additional personnel, preferably from within the resources of the next higher headquarters. The engineer battalion MTOE was not designed for operations requiring the wide separation of battalion headquarters' elements. These temporary augmentations do not meet the criteria for MTOE changes.

FOR THE COMMANDER:



RICHARD V. FULD  
CPT, AGC  
Assistant Adjutant General

Cy furn:  
299th Engr Bn  
18th Engr Bde

GPOP-DT (31 Jul 69) 4th Ind

JECT: Operational Report of HQ, 299th Engr Bn (C) for Period Ending  
31 July 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 15 OCT 69

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:



C. L. SHORTT  
CPT, AGC  
Asst AG

ORGANIZATION STATUS  
(1 May 1969 - 31 July 1969)

**Assigned Units:** Headquarters and Headquarters Company  
A Company  
B Company  
C Company  
D Company

**Attached Units:** 15th Engineer Company (IE)  
(attached 24 June 1967 to present)

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**PERSONNEL STATUS**  
 (as of 31 July 1969)

<u>GRADE</u>	<u>AUTH</u>	<u>ASGD</u>
O5	1	1
O4	2	1
O3	15	10
O2,O1	31	26
E9	1	1
E8	9	10
E7	29	20
E6	71	36*
E5	251	105*
E4	400	395
E3,E2,E1	192	327

\* denotes critical shortage

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